DOCUMENT RESUME

ED 209 547 CE 030 679

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TITLE Energy Education for Limited Income Families: The Choctaw Project.
INSTITUTION Oklahoma State Univ., Stillwater. Cooperative Extension Service.
SPONS AGENCY Oklahoma State Dept. of Energy, Columbus.
PUB DATE 81
GRANT 291-46-G-69119-45-5
NOTE 81p.

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS Adult Education; Adults; Community Education; *Conservation Education; Disadvantaged; Economically Disadvantaged; Educationally Disadvantaged; *Energy Conservation; *Extension Education; *Fuel Consumption; Heating; *Low Income; Low Income Counties; Low Income Groups; Outcomes of Education; Postsecondary Education; *Program Effectiveness; Rural Areas
IDENTIFIERS *Energy Education; Oklahoma (Choctaw County)

ABSTRACT

The Oklahoma State University Cooperative Extension and the Oklahoma Department of Energy conducted a special project to deliver energy education to limited income families in rural Choctaw County. The project, conducted between September 1 and November 30, 1980, was designed to deliver energy conservation practices, increase comfort, decrease energy loss, and control utility costs for the families. Eight paraprofessionals were trained to teach energy efficient housing structure modifications and changes in living habits or behavior that would reduce household energy use to 788 families (1,943 people). Data collected confirmed the limited income status of the families: 86 percent had incomes below $12,000; 44 percent were headed by persons aged 62 and over; and 46 percent had eight years or less of education. A pre- and post-project survey of household knowledge of energy conservation and of structural and behavioral practices showed that the project had the following results: (1) the people involved increased their knowledge and skills; (2) the participants know enough to reapply their knowledge and skills in future years; (3) scarce resources (money and energy) were extended or conserved for both households and society; and (4) using paraprofessionals to teach the families is a successful model; families were motivated to change behavior: treatments affected change in knowledge and structural and behavioral conditions. It was recommended that the results of the project be considered when planning energy education programs to reach limited income clientele. (KC)

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ED209547

Energy Education for Limited Income Families

The CHOCTAW PROJECT

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CE 030 679

ABSTRACT

Williams, S., Braun, B., and Lauener, N.L. Energy Education for Limited Income Families: The Choctaw Project. Stillwater, OK: Cooperative Extension Service, Oklahoma State University, 1981. (Funded by Oklahoma Department of Energy).

One major problem of limited income families is the lack of ability to cope with rapidly rising energy costs. One way to offset rising costs is to reduce the amount of energy consumed. If families are to use energy wisely, they must be aware of the need for energy conservation and ways to change behavior. Therefore, Oklahoma State University Cooperative Extension with funding from the Oklahoma Department of Energy undertook a project targeted for this audience.

Purpose: The purpose of this project was to initiate a program to deliver energy conservation information to limited income families in Choctaw County, Oklahoma. Further, the purpose was to help these families increase their comfort, decrease their energy loss and control their utility costs. Three weatherization practices were presented which are relatively inexpensive, easy to install, and contribute significantly to reduction of energy loss. Efficient habits within the home were also emphasized.

Objectives:

1. To help limited income families increase their comfort, decrease energy loss and control their utility costs.

2. To analyze the relationship between family characteristics and the adoption of energy conservation practices.
3. To identify reasons why the families did or did not adopt energy efficient practices.
4. To develop recommendations for expanded energy education programs for Oklahoma families.
5. To encourage clientele worked with and other agencies involved in an energy education effort to realize the importance of an ongoing energy conservation program emphasis.

Methodology: Eight paraprofessionals were trained to deliver the energy education via group meetings and home visits. They conducted the energy education between September 1 and November 30, 1980. Each aide used a notebook and demonstration kit with a variety of audio-visual materials. Two approaches to energy conservation were taught: a) structural modification and b) behavior change.

Target audience: Aides were challenged to reach and teach 50 families each for a total of 400. They exceeded this goal by reaching 788 families (1,943 people). Data collected on household characteristics confirmed that the clients were limited income families. Eighty-six percent had incomes below $12,000. Four hundred twenty-three (44%) were headed by persons ages 62 and older. Forty-six percent of the heads had 8 years or less education. Eighty nine percent lived in single family dwellings; 66% owned those homes. Eighty nine percent also paid their utility bills directly.

Data collection: A 38 item presurvey was administered by the aide when initial contact was made with the 788 households. Another 38 item postsurvey was administered during December to 656 households. The instruments collected data in five categories: 1) household characteristics; 2) knowledge of energy

conservation; 3) structural practices; 4) behavioral practices and 5) data about the project.

Findings: Mean scores for both pre-treatment and post-treatment conditions were obtained for knowledge, structural and behavioral variables. T-tests were calculated to determine the significance of the difference between the two sample means. For all three variables, the differences were significant at the .0001 level. Additional data were collected and analyzed to help reveal why participants adopted or did not adopt; future plans; persons who influenced decisions; how changes were made; others they taught; and the use of a local "low-cost no-cost" weatherization program.

Conclusions: The project did reach a limited income audience. The use of paraprofessionals to reach and teach these families is a successful model. Families were informed and motivated to change behavior as a result of the aides' outreach. The treatments affected change in knowledge, structural and behavioral conditions.

Recommendations: The results of this project should be considered when planning similar programs. Paraprofessionals should be considered for effective delivery. A similar project should be conducted focusing on older adults. Households should be recontacted to ascertain the long-term impact of the project. Measures of actual and estimated energy savings should be obtained and analyzed to quantify the impact of the project. Data should be further analyzed to reveal information relevant to the project. The methodology and impacts should provide needed data for program designers, educators and legislators.

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PART I: PROJECT FRAMEWORK

The concerns and problems confronting families living in a changing society clearly reveal the importance of reliable, appropriate information related to their needs. A multiplicity of problems are encountered by families, but particularly affected are those families living on limited incomes. One major problem is lack of ability to cope with rapidly rising energy costs. Limited income families are particularly affected by the increase in the cost of a survival resource such as energy because they lack the flexibility of other income groups to accomodate rising prices.

One way to offset rising energy costs is to reduce the amount of energy consumed. If families are to use energy wisely, they must be made aware of the need for energy conservation and ways to change behavior.

Energy Extension Service Objective

In an effort to help Oklahomans lower their consumption of energy, several programs have been developed through an Energy Extension Service grant from the U.S. Department of Energy. The overall objectives of this program are:

1. To reduce energy consumption by individual consumers and small establishments.

2. To increase knowledge of implementable and cost effecitve energy conservation measures by individual consumers, small establishments and energy influencing audiences.
3. To increase awareness and understanding of energy related issues and problems by the general public, including the near term cost-effectiveness of using certain renewable energy technologies.
4. To increase knowledge as to where additional assistance is available especially for low-income individuals.

Oklahoma Energy Extension Service programs are administered through the Oklahoma Department of Energy.

Purpose of Project

Providing energy education for limited income families has also been identified as a needed component of the Cooperative Extension Service at Oklahoma State University. Reaching this audience has historically been difficult. However, Extension's use of paraprofessionals in the Expanded Foods and Nutrition Program has been a successful method of working with limited resource families. In addition, the paraprofessional approach has been successfully used to deliver energy education in two Cooperative Extension Projects in Tulsa County, Oklahoma. A paraprofessional is a person trusted by families in the community. They work with families on a one-to-one or small group basis which supports this trusting relationship and increases the likelihood of positive change.

Based on common goals and objectives of Oklahoma State University Cooperative Excension and the Oklahoma Department of Energy -

Energy Extension Service, the Energy Education For Limited Income Families Project was funded by ODOE and implemented jointly by the two agencies. The project was conducted from April 1 to December 31, 1981.

The purpose of this project was to initiate a program to deliver energy conservation information to limited income families in Choctaw County, Oklahoma. The purpose was further to help these families increase their comfort, decrease their energy loss and control their utility costs. Three weatherization practices (caulking, weatherstripping, and application of plastic to doors and windows) were presented. These three methods of weatherization are relatively inexpensive, easy to install, and contribute significantly to reduction of energy loss. In addition to inexpensive weatherization practices, suggestions were given on how to reduce energy use by adopting energy efficient habits within the home.

Objectives of Project

The objectives for this project were:

1. To help limited income families increase their comfort, decrease energy loss and control their utility costs.
2. To analyze the relationship between family characteristics and the adoption of energy conservation practices.
3. To identify reasons why the families did or did not adopt energy efficient practices.
4. To develop recommendations for expanded energy education programs for Oklahoma families.

5. To encourage clientele worked with and other agencies involved in an energy education effort to realize the importance of an ongoing energy conservation program emphasis.

Methodology

Due to the time span, human resources and money available for the project, the following decisions were made concerning the project:

- use 8 paraprofessional energy education aides
- provide information to families on three aspects of weatherization and a variety of energy efficient household habits.
- challenge each aide to reach 50 families with information through any means available to persuade families to adopt recommended energy management practices.
- encourage aides to work with existing groups such as senior citizens groups, Headstart Parents, Tennant Associations, etc.

The paraprofessional project staff received extensive orientation training. Two training sessions (2 days each) were conducted for the aides. Training I focused on general principles of working as a paraprofessional. Training II focused on basic energy management including computerized energy audits. Aides also received weekly training designed to reinforce and expand principles covered during orientation.

Each aide was supplied with a variety of support materials. These materials included a handbook containing basic information on the project, aide responsibilities, project forms and reference materials. In addition to the handbook, each aide had a suitcase kit of demonstration materials. These materials were designed to assist the aide as they made individual contacts or worked in small group meetings. Techniques and energy management strategies for the kit contents were chosen based on the following criteria:

1. reduce household energy use
2. increase comfort
3. low cost
4. could be home produced

Two approaches to energy conservation were used: a) structural modification and b) behavior change. Items in the kit served to illustrate each approach in a variety of ways. Following are the items included in the demonstration kit and brief reasons for including the item:

I. Structural - To stop infiltration, the project team zeroed in on the use of caulking, weatherstripping, storm windows and doors. These changes in the physical structure of the house or some part there of contribute to energy conservation.

A. Sample "Hole In The Wall" - 3" x 5" opening shows the air leakage around an average window.

B. Caulking Gun and Tube of Caulk - gives aides and clientele the opportunity to actually use a caulking gun.

C. Caulking Sample Board - shows sample butyl rubber caulking and latex caulking. Also shows proper bead and poor bead.

D. Weatherstripping Sample Board - shows sample of weatherstripping to familiarize clientele with various kinds available and best uses.

E. Threshold Sample Board - shows samples of weatherstripping to use around doors and how to install threshold.

F. Storm Window - sample shows how to install a plastic storm window.

G. Measuring Tape and Flashlight - equipment needed to complete a household energy audit input form.

H. Plastic Storm Window Sample Board - shows several weights of plastic and tells best uses of each.

II. Behavioral - The project team focused on changes that can be made in the family's behavior to increase comfort and decrease energy usage. These changes in individual or family habits and life style contribute to energy conservation.

A. Fabric Sample Board - shows several types of fabric with different thermal qualities. Suggests layering of clothing.

B. Layers of Clothing - shows example of wearing several layers of light weight clothing.

C. Sleeveless Vest and Leggings - example of how long sleeve sweater can be recycled.

D. Color Sample Board - shows warm and cool colors in a color chart.

E. Roman Shades - one window treatment that can be very effective in making windows more energy efficient.

F. Window Inserts - two samples of a window treatment that is effective and inexpensive. Shows several kinds of finishes that can be used.

G. Windbreaker - sample made to show how to stop drafts under doors and windows.

PART II: CONDITIONS AT BEGINNING

Choctaw County, located on the Oklahoma-Texas border in southeastern Oklahoma, was the site for the energy project. Choctaw County was selected for the project for a variety of reasons. Foremost is the characteristics of the population.

Criteria for Site Selection

In the last census, 4,009 families were found to live in Choctaw County. The median income of these families was $4,791. Of those families, 1,341 (33.4%) had incomes below poverty level; 1,764 (44%) has incomes 125 percent of the poverty level. Thus, the population of the county qualified on the criterion of low income.

A second criterion was that the population be rural. Choctaw County has 57 percent of its population living in rural areas. The largest town in the county, Hugo, has a population of 8,200.

Closely related to the income and geography of the population is the quality of housing in which the residents live. In census reports, housing characteristics that indicate quality are reported by the following characteristics:

A) total housing units;
B) lacking some or all plumbing;
C) single dwelling units;
D) median number of rooms;
E) built in 1939 or earlier;
F) owner occupied and median value;
G) renter occupied.

For Choctaw County those characteristics are:

A	B	C	D	E	F	G
5,960	1,347	5,474	4.6	2,166	3,549(5,100)	1,716

Again, based on the criterion of potentially energy inefficient housing, Choctaw County qualified for the project.

Another criterion of access to the population made Choctaw eligible for the project. The Choctaw Cooperative Extension Service, directed by Ja. Montogomery, was identified as an exemplary county office. The people of the county respect the county staff, their education programs and materials. The staff and their programs are recognized as being reliable, current and useful to the people of the county. Special projects designed to meet the special needs of limited income families in both foods and nutrition and housing have had a successful track record under the leadership of the Cooperative Extension Staff. The credibility of Cooperative Extension in Choctaw County, which could open doors otherwise left closed to a project such as this, made Choctaw County a stand-out for site location.

Existing Community Resources

In addition to the Cooperative Extension Office, a number of other community resources were present at the start of the project. Each of these resources could be (and were) used by the project. They included:

Chamber of Commerce
Choctaw Electric Cooperative
County Commissioners
Eugene Field PTA
Gene Thompson - Hugo Mayor
Head Start

Hugo Housing Authority
Human Services (Welfare)
KIHN Radio Station
Lions Club
Little Dixie Community Action Center
Public Service of Oklahoma
Rural Electric Cooperatives
Senior Citizens Center
The Boswell Times and Hugo Daily News Newspapers
Vocational Technical School (Vo-Tech)

PART III: DISCUSSION OF TARGET GROUP

Characteristics

This project served 788 households containing 1,943 people. Of those, 1,170 were adults; 773 were children.

The fact that the project did serve low income clientele is validated by data collected on family/household characteristics (See Table I). Variables which are indicators of this clientele (in addition to income) include: age, sex and education of head of household. From the data in Table I, it can be seen that 524 (66%) of the households had incomes less than $6,000; 155 (20%) more had incomes up to $12,000. Thus, 86% of the households served were below the $12,000 income level.

Older people usually have lower incomes than the general population. Among the households served by this project, 271 (34%) were headed by persons 62-75 years of age; 152 (19%) were headed by persons over 75. Thus 423 or (44%) of those in this project were older persons.

Female headed households also tend to have lower incomes than male headed households. Three hundred thirty (42%) of these households were headed by women.

Income and education level are usually correlated. Generally, the lower the education level the lower the income. Three hundred fifty-nine (46%) of the heads of household in this project had 8 years

TABLE I

CHARACTERISTICS OF HOUSEHOLDS

VARIABLE	N	%
Sex of Household Head		
Male Head, Female Present	347	44.04
Female Head, Male Present	25	3.17
Male and Female Co-Heads	48	6.09
Male Head, No Female Present	34	4.32
Female Head, No Male Present	330	41.88
Age of Household Head		
18 to 29 Years	75	9.52
30 to 39 Years	90	11.42
40 to 49 Years	78	9.90
50 to 61 Years	114	14.47
62 to 75 Years	271	34.39
Over 75 Years	152	19.29
Education of Household Head		
8 Years or Less	359	45.56
Some High School	186	23.60
High School Graduate	143	18.15
High School Plus Some College	56	7.11
College Graduate	32	4.06
Family Size		
One Person	252	31.98
2 Persons	233	29.57
3 Persons	90	11.42
4 Persons	94	11.93
5 or More Persons	116	14.72
Income		
Less Than $6,000	524	66.50
$6,000 to $12,000	155	19.67
$12,001 to $18,000	42	5.33
$18,001 to $24,000	17	2.16
Over $24,001	9	1.14

Residence Type		
Single Family	705	89.47
Duplex	30	3.81
Apartment	21	2.67
Mobile Home	29	3.68
Tenure		
Rent	246	31.22
Own	521	66.12
Live Rent Free	17	2.16

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or less of education; 186 (24%) had some high school. Together, 545 (70%) of the heads of households were not high school graduates.

Based on this data, we can conclude that the clientele served by the project met the criteria for classification as low income.

Propensity to Adopt

Two factors which have been shown to influence decisions to conserve energy are ownership of one's home and payment of utility bills. Renters are often reluctant to invest in materials for the building even though they might benefit. Persons who do not pay their utility bills may not be as aware of the need to conserve. In this project, 705 (89%) lived in single family dwellings (Table I). Of these, 521 (66%) owned their home. Six hundred ninety-eight (89%) of all households paid their own utilitiy bills.

Another conclusion which can be made based on this data is that the clientele contacted had the propensity to adopt energy conserving practices. Needed was a catalyst to get people to change. It was the premise of this project that education could be such a catalyst if delivered in a manner acceptable by the target audience with content that was appropriate by persons able to inform and motivate. Seven hundred twenty-two of the households stated that prior to this project they had had no energy education.

PART IV: METHODS USED TO REACH TARGET GROUP

For service deliverers, it is imperative that the method of delivery of the service be appropriate to the clientele and the nature of the service. The goal of such program directors ought to be to develop and implement a project that returns the highest benefit for the least cost. Sometimes, however, the emphasis is placed on least cost irregardless of benefit.

Media Method

For example, a frequent method of informing people is via written media. A message is often mailed to individual homes. The hope is that receivers will read the message and act on the directive. Such a method can be viewed initially as "low cost" depending upon the number mailed.

To test such a method, 3,277 colorful, catchy leaflets were mailed to the potential audience in Choctaw County (Appendix A). (A complete census mailing was impossible to obtain. Therefore, the list of those on the waterline was used). Of those receiving the leaflet, 15 responded via a phone call to the Extension Office where they requested further information. Even if a small amount of the cost for production and distribution were allocated to the remaining receivers for the public relation/awareness benefit, the cost still remains high for the return (i.e. response) on the investment. Thus, on this limited trial,

one can conclude that the mailed method was not cost effective. Cause cannot be stated--only speculated. Perhaps the timing of the mailing; the content, the recipients' ability to read or the lack of human contact contributed to the low response rate. Another study should investigate cause/effect of the mailing methodology.

Group Method

Another mode of delivery frequently used is that of group meetings. Therefore, this project was designed with such meetings as a second method or treatment. Meetings were called through existing groups (i.e. senior citizens, extension homemakers, vocational-technical classes, church groups) and through neighborhood gatherings. The content of the meetings was standardized: information was shared on the need for energy conserving practices and ways to conserve both through structural (housing) changes and behavioral activities. Emphasis was placed on visual presentation of the information. A slide show, a kit of materials with actual samples, demonstrations and illustrated handouts were used to inform the audience. Attendees completed a survey during the meeting which served as an awareness device and discussion starter (these surveys also provided the pretreatment data reported in Tables I, II, III). Attendees were given the opportunity to sign up for home visits. Two hundred twenty-seven persons attended group meetings. Of those, 78 requested home visits.

Group meetings are frequently used by program designers because the cost of delivery per person is less than for individual contacts. The program director hopes that decisions to adopt the information

will be influenced by the dynamics of the group (a phenomenon well documented in sociology and communication literature). However, for group dynamics to work, a "group" must be in attendance! Location, transportation, time of day, content, knowledge of the meetings' existence are all intervening factors which affect attendance. Again, cause and effect of attendance or non-attendance were not studied. We can only speculate that, with the low income, less educated, elderly persons (especially women) in this project, such intervening factors influenced their participation/non-participation in group meetings. Thus, while the cost per attendee (to the project) is lower than for individual visits, the benefits (i.e. large numbers informed and adopting) remain small. In this project, 28.6% of the families attended group meetings.

Individualized Method

Another method is that of one-to-one or individualized delivery. This option has a higher cost factor than the two previous methods (time/labor and travel costs are increased for both the client-service deliverer).

This method was used to reach 563 (71.4%) households. The same information was shared as was given at group meetings (i.e. housing and behavioral practices). The survey and kit of materials was also used.

Paraprofessionals as Service Providers

The literature available on service delivery to limited income persons supports the concept of use of paraprofessionals (aides) to reach and teach this clientele. Aides were thus used for both group and individualized delivery. Basically, the rationale for using aides is that people can be influenced to change behavior if informed and motivated by someone with whom they can identify and trust.

Seven women were selected from among 29 applicants for these jobs and trained to deliver the energy education. These seven were called "Energy Education Aides." None of them had had any prior energy education and most had never "taught" before. They were all selected because they were similar in family characteristics to the clientele they served and they lived in the communities they served. They received instruction and practice in weatherizing houses, in auditing houses, in behavioral habits that affect energy use, in how to work with people, to use audiovisual equipment, organize time, keep records, interview people, etc. Training was conducted at the beginning of the project and weekly during the project.

The aides were paid for 30 hours work for 19 weeks plus mileage. They were challenged to contact a minimum of 50 families each. They far surpassed this goal by averaging over 100 each for a total of 788. While no cause for such behavior can be stated, we can report that commitments to the need for the project to helping others was an important factor. Competent leadership and guidance from the aide supervisor and county director was another factor. (Insight into aides and behavior is provided by the pre- and post-tests they took, the

testimonies and success stories they wrote and the journal they kept throughout the project.) An indepth study of paraprofessionals would be a valuable contribution for those responsible programs using aides.

The families served by this project were asked whether or not they had known the aide prior to the initial contact and the length of their acquaintance. Two hundred twenty-five (29%) had known the aide over 5 years; 26 (3%) one to five years; 18 (2%) less than one year. A total of 269 (34%) knew the aides; 501 (66%) had just met the aide. Perhaps this can be explained by the "young" age of the aides and the "old" age of the respondents.

PART V: CHANGE

If a program director is to make the best possible decisions as to allocation of resource, methods of delivery, etc., adequate information must be available. One type of information that is needed can be classified as "pre-treatement conditions"; another is "post-treatment conditions." Analysis of each and identification of change can aid in future decisions. From this project, data were collected in five categories: 1) household characteristics; 2) knowledge of energy; 3) structural practices; 4) behavioral practices and 5) data about the project.

A presurvery was administered by the aide when initial contact was made with a client either through a home visit or a group meeting. The presurvey instrument (Appendix B) consisted of 38 items. It was developed based on pilot testing during two other projects. The postsurvey (Appendix C) was administered during a three week period in December, 1980 by aides who contacted households they did not serve during the project. That instrument also consisted of 38 items. It, too, was developed based on testing in previous projects.

Pretreatment conditions

1. Knowledge

Respondents were asked 10 true-false items as a measure of their knowledge about energy. Items, frequencies and percentages

are reported in Table II. Each item was coded: True = 1 and False = 0. A total score was obtained for each respondent by adding their correct responses for the items pertaining to knowledge about energy. The scores for this sample ranged from: minimum = 0 to maximum = 10, with a mean score of 7 (Figure 1). A measure of reliability was obtained by the split-halves method. The reliability coefficient of the entire knowledge section was .72.

2. Structural conditions

Seven items constituted the "condition of structure" section of the presurvey (Appendix B). The items measured only those structural properties that could be weatherized under the project objectives. The items, frequencies and percentages are presented in Table III. Each item was coded: no modification = 0 and modification = 1. A total score was obtained for each respondent by adding their positive responses for the items pertaining to existing structural properties. The scores for this sample ranged from: minimum = 0 to maximum = 7, with a mean score of 1.67 (Figure 2). An average of 75% of the families reported their homes were not weatherized at the time of contact with the project aide.

3. Behavioral conditions

Eight items provided data about energy related behavior of household members. Again, the items, frequencies and percentages are presented in Table III. The variable, "behavioral conditions", was created in the same way as structural conditions. The scores for this sample ranged from: minimum = 0 to maximum = 8, with a mean score of 3.64 (Figure 3).

TABLE II

PRETREATMENT KNOWLEDGE ITEMS,
FREQUENCIES AND PERCENTAGES

	ITEM	N*	%*
10.	Air leaks are the largest single source of energy loss in your home.	621	79
11.	Lowering the temperature of your furnace or heater is the most inexpensive way of cutting energy.	522	66
12.	You use more heat to be comfortable in moist air.	340	43
13.	Wearing layers of clothing can help keep you warm.	696	88
14.	Weatherizing involves three major procedures: weatherstripping, caulking and installing storm windows and doors.	665	84
15.	Fuzzy, fluffy jackets are warmer than smooth silky jackets because they both hold body heat.	578	73
16.	You can save 10 to 30 cents of every dollar spent for heating by fixing air leaks in your home.	649	82
17.	Hot water heaters use very little energy.	530	67
18.	Placing rolled newspaper, heavy towels, or rugs at the base of doors and windows are easy and inexpensive ways to stop drafts.	686	87
19.	A fan can be used to move air from a warm room into a cold room and heat the cold room quickly.	506	64

* This table represents only correct responses.

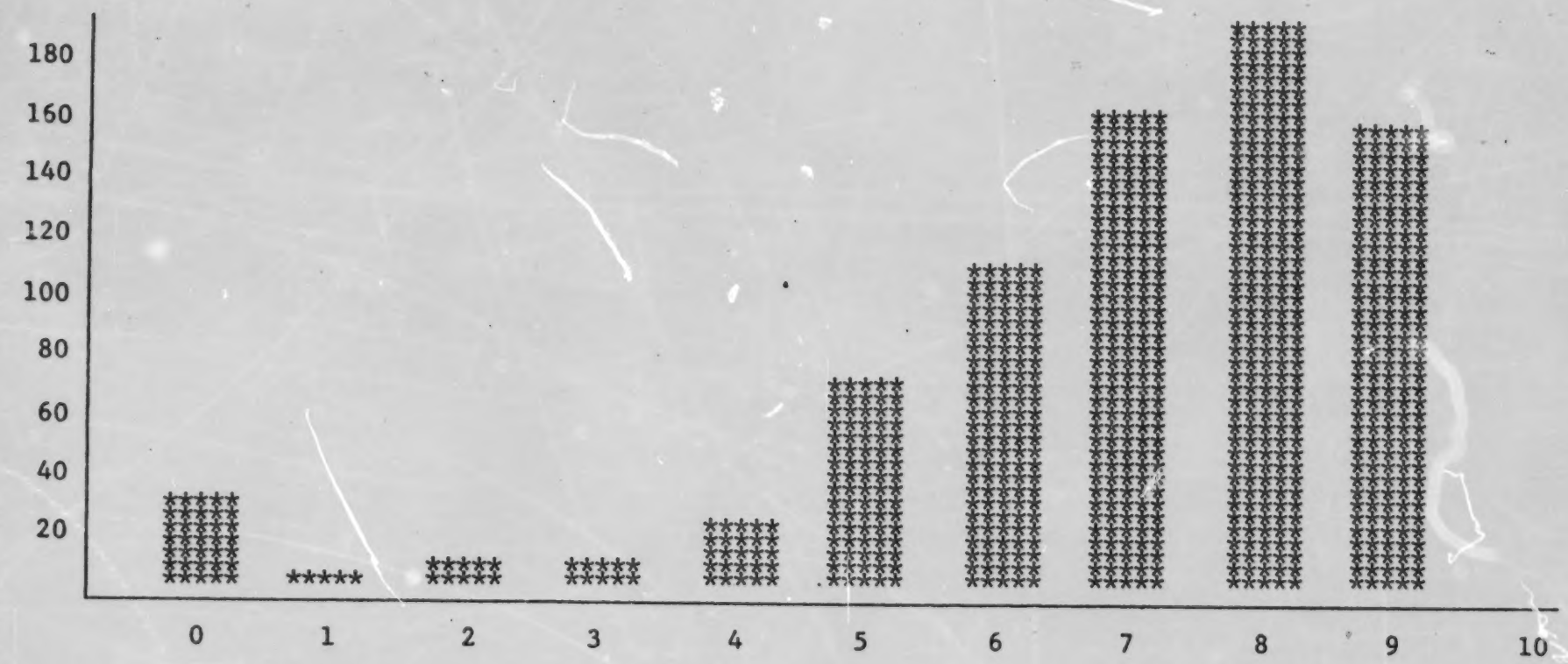

Figure 1. Frequency Bar Chart for Pre-Test Knowledge Scores (N=788)

TABLE III

PRETREATMENT STRUCTURAL-BEHAVIORAL CONDITIONS
FREQUENCIES AND PERCENTAGES
(N = 788)

	STRUCTURAL CONDITIONS	N	%
20.	Are all windows sealed with caulk	258	32.74
21.	Are all door frames sealed with caulk	227	28.81
22.	Are all exterior walls sealed with caulk	208	26.40
23.	Are all windows weatherstripped	202	25.64
24.	Are all doors weatherstripped	244	30.96
25.	Are storm windows on all of your windows	137	17.39
26.	Are storm doors on all of your doors	181	22.97
	BEHAVIORAL CONDITIONS		
27.	Add layers of clothes to keep warm	600	76.14
28.	Have heavy draperies or curtains on your windows	420	53.30
29.	Have shades on your windows	325	41.24
30.	Block off any windows	189	23.99
31.	Add moisture to the air	178	22.59
32.	Keep your heater on lower settings (about 68°)	427	54.19
33.	Have leaky water faucets	208	26.40
34.	Stop air leaks with paper, rags or rugs	524	66.50

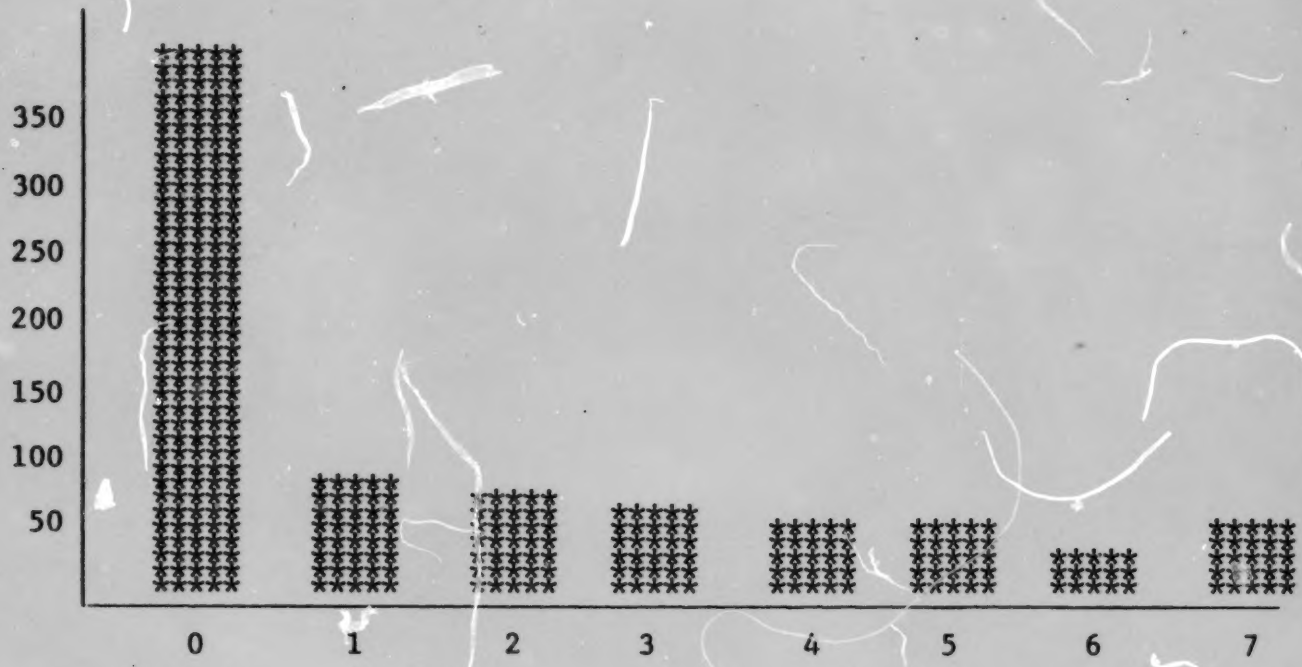

Figure 2. Frequency Bar Chart for Pre-Test Structural Conditions

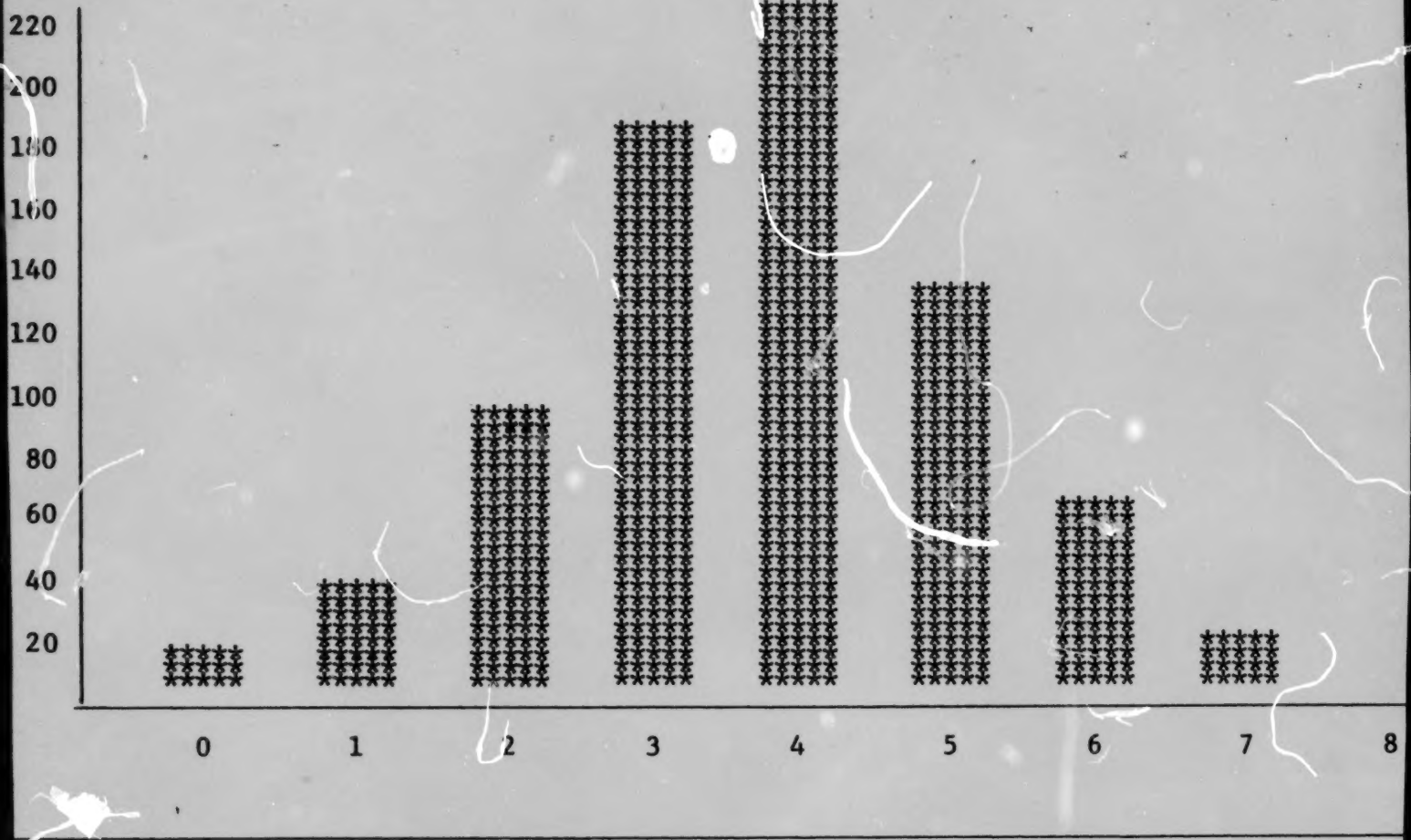

Figure 3. Frequency Bar Chart for Pre-Test Behavioral Practices (N=788)

On the behavioral items, there is more variation between questions. Only an average of 53% of the families reported not doing the behavioral practices. The families, were, therefore, doing more to reduce energy via behavior than structural changes. A measure of reliability was calculated for the combined structural-behavior conditions section using the split-halves method. The reliability coefficient of the entire section was .75.

This data is useful for program planners as they design the content of their program. Knowing conditions existing at the beginning of a treatment establishes a base for evaluation at the conclusion of the treatment. Change in general and in specific areas and on specific items can be documented. Baseline data can also inform the change agent about strengths and weaknesses of the client. And, finally, the client becomes aware of a "knowledge gap". According to educational studies, such awareness contributes to willingness to change.

Adoption of practices

At the conclusion of the project, 656 households completed a post-survey. Again, knowledge, structural and behavioral data were collected in addition to data about the project.

1. General Measures

To ascertain whether or not a household should be classified as an "adopter" or a "non-adopter", households were asked to respond to the seven structural activities and eight behavioral activities. Specifically, they were asked to state "yes or no" based on activities done since participating in the energy education project. Adoption ranged from 0 to 14 of the activities. On this basis, 652 households

could be classified as adopters; 4 as non-adopters. Essentially, all of the households did something they were taught by the aide. The mean score, based on the behavioral and structural practices was 7.08.

2. Specific measures

A more thorough analysis of the data was done to further discriminate among the households as to what knowledge was present and what specific activities were done (See Tables IV, V).

a. Knowledge measures

Again, the 10 knowledge questions were asked of 653 participants. The knowledge scores range from 1 to 10 with the mean score of 7.77 (See Figure 4).

b. Structural measures

The same 7 measures of structural practices that could increase the weatherization of a living unit were asked of 656 participants. The structural modification scores ranged from 0 to 7 with a mean score for the group of 2.96 (See Figure 5).

c. Behavioral measures

Eight behavioral practices measured in the presurvey were remeasured. The behavioral modification scores ranged from 0 to 8, with a group mean of 4.12 obtained for the 655 (See Figure 6).

Change Measurement

A comparison of the mean scores for the participants who completed pre- and post-treatment surveys reveals change in knowledge, structural and behavioral practices (See Table VI).

TABLE IV

POST-TREATMENT KNOWLEDGE ITEMS,
FREQUENCIES AND PERCENTAGES

	ITEMS	N	%
1.	Air leaks are the largest single source of energy loss in the home.	594	90.97
2.	Lowering the temperature of your furnace or heater is the most inexpensive way of cutting energy costs.	495	75.80
3.	Your use more heat to be comfortable in moist air.	320	49.01
4.	Wearing layers of clothing can help keep you warm.	624	95.56
5.	Weatherizing involves three major procedures: weatherstripping, caulking and installing storm windows and doors.	621	95.10
6.	Fuzzy, fluffy jackets are warmer than smooth, silky jackets becaus they hold body heat.	515	78.87
7.	You can save 10 to 30 cents of every dollar spent for heating by fixing air leaks in your home.	585	89.72
8.	Hot water heaters use very little energy.	249	38.19
9.	Placing rolled newspaper, heavy towels, or rugs at the base of doors and windows are easy and inexpensive ways to stop drafts.	626	96.01
10.	A fan can be used to move air from a warm room into a cold room and heat the cold room quickly.	443	67.95

TABLE V

POST-TREATMENT STRUCTURAL-BEHAVIORAL CONDITIONS
FREQUENCIES AND PERCENTAGES
(N = 656)

STRUCTURAL CONDITIONS	N	%
11. Are all windows sealed with caulk	305	46.57
12. Are all door frames sealed with caulk	292	44.58
13. Are all exterior walls sealed with caulk	271	41.37
14. Are all windows weatherstripped	241	36.79
15. Are all doors weatherstripped	293	44.73
16. Are storm windows on all of your windows	333	50.92
17. Are storm doors on all of your doors	214	32.67
BEHAVIORAL CONDITIONS		
18. Added layers of clothes to keep warm	519	79.36
19. Added heavy draperies or curtains on your windows	279	42.73
20. Added shades to your windows	235	35.99
21. Blocked off any windows	151	23.12
22. Added moisture to the air	232	35.58
23. Lowered your heater settings (about 68°)	553	84.82
24. Had leaky water faucets fixed promptly	247	37.83
25. Stopped air leaks with paper, rags or rugs	480	73.62

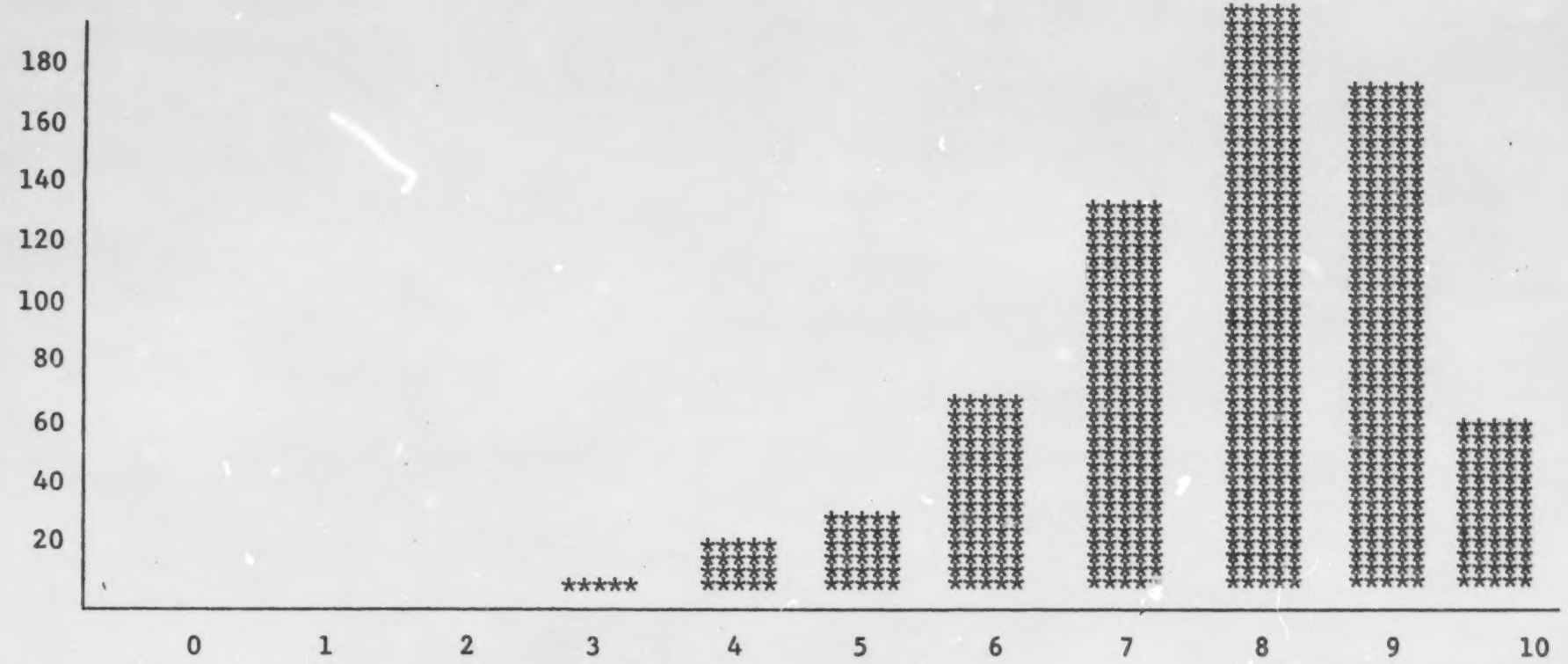

Figure 4. Frequency Bar Chart for Post Test Knowledge Scores (N=656)

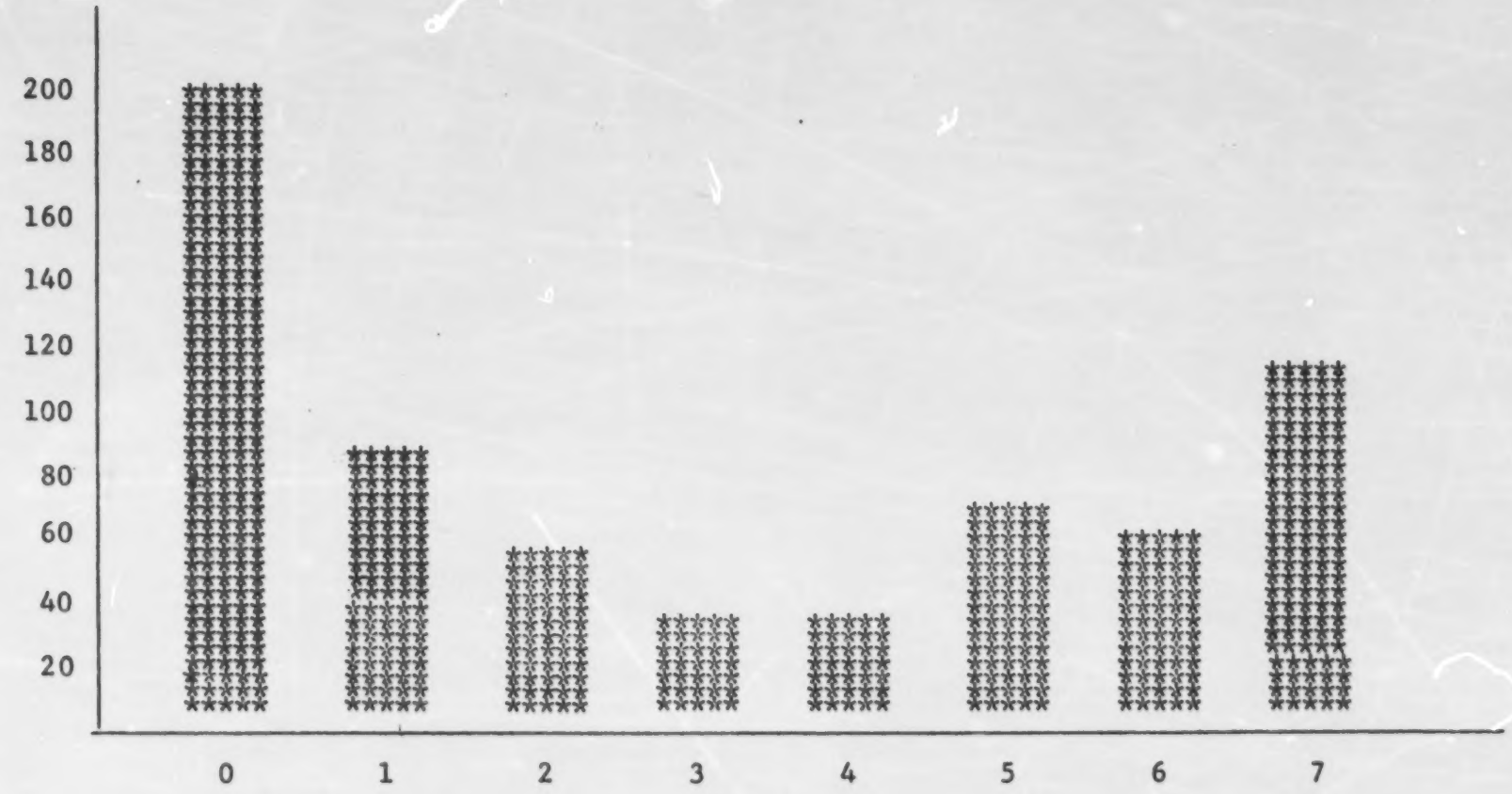

Figure 5. Frequency Bar Chart for Post Test Structural Conditions (N=656)

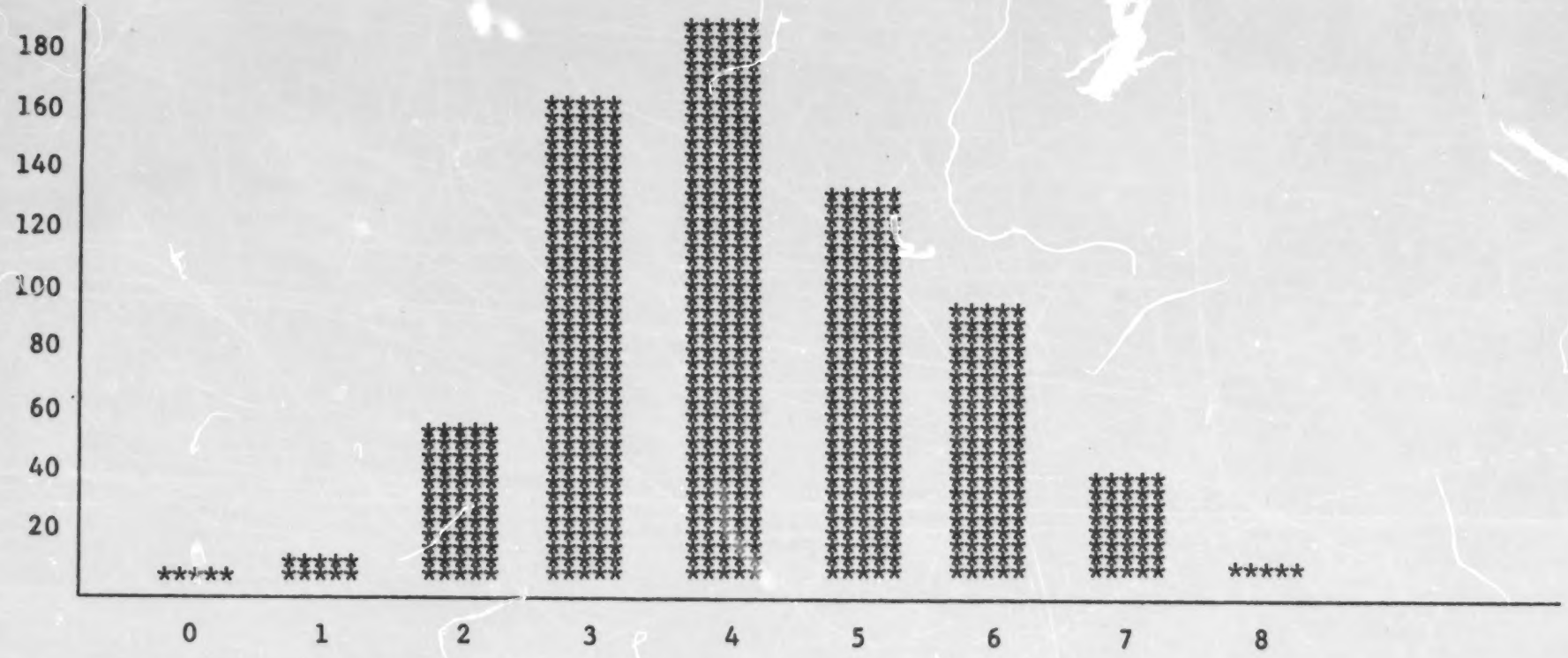

Figure 6. Frequency Bar Chart for Post Test Behavioral Practices (N=656)

TABLE VI

PRETREATMENT - POST-TREATMENT
MEAN SCORE TABLE

MEASURES	PRETREATMENT MEANS (N = 788)	POST-TREATMENT MEANS (N = 656)	DIFFERENCE BETWEEN MEANS	T-VALUE*
Knowledge	7.00	7.77	.77	-8.03*
Structure	1.87	2.96	-1.09	-6.16*
Behavior	3.64	4.12	- .48	-8.07*
Combined Structure-Behavior	5.50	7.08	-1.58	-9.88*

*Significant at .0001 level.

1. Knowledge

As stated earlier the pretreatment knowledge mean = 7.00 and the post-treatment mean = 7.77, with a difference of .77 between the two means. To determine how significant the difference between the two sample means was, a t-test was calculated. As shown in Table VI, the difference is significant at the .0001 level. Therefore, the obtained difference would happen by sampling error less than .01% of the time.

2. Structural conditions

As shown in Table VI, a difference of -1.09 was obtained between the two sample means. This difference was also found to be significant at the .0001 level. As stated earlier, the obtained difference would happen by sampling error less than .01% of the time.

3. Behavioral conditions

Once again, Table VI shows a difference between the two sample means to be -.48 for behavioral conditions. Further, the difference was found to be significant at the .0001 level. Calculations for the combined structure-behavior conditions were also significant at the .0001 level (Table VI).

Additional data collected and analyzed help reveal why participants adopted the practices taught by the aides (See Table VII and VIII). When asked, "Why did you decide to weatherize your home this winter" reasons of comfort and cost outweighed six others. Comfort (including the avoidance of drafts) was identified by 392 (59.9%) of the responses (Table VII). Cost followed with 165 (25.2%) of the

responses. When the "other" category was studied the following reasons were identified:

Needed it	21	Past Behavior	13
Little Dixie	14	Aide/Meeting	13

TABLE VHI

REASONS FOR WEATHERIZING
(N = 656)

Why Did You Decide To Weatherize Your Home This Winter?	N	%
Because of the cold drafts	218	33.33
For more comfort	174	26.61
My utility bills were too high	64	9.79
To save money	101	15.44
My friends did and/or relatives did	6	.92
To save energy for future generations	26	3.98
Because the supply of energy is so scarce	1	.15
Have not adopted any energy conservation activities	27	4.13

Those who did not weatherize were asked why not. Eight reasons were given. "Home already weatherized" and "renting" accounted for most of the reasons (Table VIII). Further probing revealed additional reasons: waiting, lack of need or interest and moving.

TABLE VIII

REASONS FOR NOT WEATHERIZING
(N = 656)

Why Did You Decide Not To Weatherize Your Home This Winter?	N	%
Lack of money	58	8.87
Weather (too hot or too cold)	4	0.61
Too close to the holiday season	-	-
Rent residence (Landlord should do it)	83	12.69
It won't save energy	6	0.92
Don't have the time	22	3.36
Not able to do the work	23	3.52
Don't know how	5	0.77
Home was already weatherized	88	13.46

Respondents were asked if they planned to weatherize in the future. Three hundred ninety-five (60.5%) said yes; the rest did not know or said no (Table IX).

TABLE IX

PLANS FOR FUTURE WEATHERIZATION
(N = 656)

Do You Plan to Weatherize Your Home in the Future?	N	%
Yes	395	60.49
No	127	19.45
Do not know yet	131	20.06

Another question asked was "What person(s) influenced you most to weatherize?" The aides were credited by 326 (50%) of the respondents (Table X); "no one" by 181 (27.8%); 5 other categories accounted for the rest of the influentials.

TABLE X

WHO INFLUENCED WEATHERIZATION
(N = 656)

What person or persons influenced you most to weatherize your home this winter?	N	%
The Energy Aide	326	50.08
Friend	8	1.23
Relative	7	1.08
My family	32	4.92
Community leader	4	0.61
No one influenced the decision	181	27.80

Respondents were required to determine how the structural changes were made (Table XI). 295 (45.3%) did the work themselves. Five other categories accounted for the rest. The "other" category revealed that the community action agency, Little Dixie, was credited with 31 assists; government projects and the aides with 15 each.

TABLE XI

HOW STRUCTURAL CHANGES WERE MADE
(N = 656)

How did you get the structural changes made?	N	%
Did them myself	295	45.32
Friends helped me	29	4.46
Family helped	76	11.67
Paid workmen	32	4.29
Service group	58	8.91

Because of the potential each person has for influencing others, respondents were asked if they taught anyone else (Table XII). And, if so, did that person(s) do anything. One hundred fifty (22.1%) responded affirmatively. Of those, 55 (36.4%) said "yes", those they taught had done something. Seventy-seven did not know what had been done.

TABLE XII

PARTICIPANTS WHO TAUGHT OTHERS

Did you teach a neighbor or a friend home to keep warmer this winter?	N	%
Yes	150	22.97
No	494	75.65
I do not know	9	1.38
Did they do anything because of the information you gave them?		
Yes	55	36.42
No	18	11.92
I do not know	77	50.99

Because of the availability of the "low-cost no-cost" weatherization program through the Little Dixie agency, respondents were asked if they had used Little Dixie Services (See Table XIII). One hundred seventy-two said yes.

TABLE XIII

LITTLE DIXIE
(N = 656)

Did you use Little Dixie's Services?	N	%
Yes	173	26.62
No	456	70.15
Haven't yet	21	3.23

PART VI: SIGNIFICANCE

The impact of this project on the lives of the project personnel, individuals and families of Choctaw county, and ultimately on the state, region and nation is worthy of reivew.

As a result of this project, the people involved increased their human capital--knowledge and skills. 1) Choctaw county has a trained cadre of paraprofessionals capable of conducting further projects or contributing service in other ways to their community. 2) The participants who learned how, why and when to apply structural and behavioral practices to decrease energy use are now educated and could reapply their knowledge and skills in future years. 3) The project personnel became more skilled in developing, implementing and evaluating a cooperative project such as this. Future projects should benefit from this bank of experience. 4) For those needing assistance to obtain materials, they were helped by a local agency. These people now know of a community resource that can help them. Perhaps this contact will facilitate further relationships in years to come. The same applies for the contact with Cooperative Extension in Choctaw County as another local resource. The services of the Oklahoma Department of Energy also became known to the participants of this project. Following is a brief explanation of the interaction that occurred among project participants, the aides and 16 community resources;

1. Chamber of Commerce - Used their facilities for group meetings. Provided information for Choctaw County Profile.
2. Choctaw Electric Cooperative - Used Energy Event Publications as handouts for their annual members meeting and at the county fair. Also very helpful when first starting to use Energy Audits.
3. County Commissioners - Helped advise on hiring of Aides and gave added support when working in their communities.
4. Eugene Field PTA - Aides went to meeting and showed slide presentation to let them know what our program had to offer.
5. Gene Thompson - Hugo Mayor - Helped get mailing list from Hugo Water Department for flyers. Also allowed us to use his morning radio program to publicize our Energy Education Program.
6. Head Start - Allowed presentations of the Weatherization Program to Head Start Parents in Grant and Hugo. One aide gave "The MIZER Series" on Energy Education Booklet to the Head Start in Roswell.
7. Hugo Housing Authority - Gave their permission for people living in Governmet Housing to do structural changes on their apartments and supported our program.
8. Human Services (Welfare) - Informed clientele they might be eligible to receive assistance for utility bills from Human Services.

9. KTHN Radio Station - Broadcast three radio programs; two on the Energy Education Project, interview style; and one on "Ways to Save Energy in the Home."
10. Lions Club - An aide explained our program to them in order to get some volunteers to help elderly and handicapped weatherize their homes.
11. Little Dixie Community Action Center - (See detailed discussion on following page.)
12. Public Service of Oklahoma - Aide supervisor and county extension director attended their In-Service Training on Home Energy Conservation. Invited two representatives to attend our Aides Orientation (so they would better understand our program) and our Aides Recognition Day (so they could learn of the project impact).
13. Rural Electric Cooperatives - Allowed Aide supervisor to attend their Auditors Training Seminar and become a Certified Auditor.
14. Senior Citizens Center - We organized our Group meetings for Senior Citizens through the Senior Citizens Centers in Hugo and Boswell. These meetings were scheduled before and after their lunch at the Centers. The aides had a hard time working with these groups because they were unable to separate the interested from the uninterested before the meetings began. Their prime reason for being at the center was for lunch and activities such as dominoes, not a group meeting on energy conservation.

15. The Boswell Times and Hugo Daily News newspapers - Provided coverage of the project.

16. Vocational Technical School (Vo-Tech) - Let us use their facilities for group meetings and had us present our program to several of their classes.

In addition to increase in human capital, scarce resources (money and energy) were extended or conserved for both households and society. If the applied weatherization practices result in reduced energy consumption, households benefit directly; society indirectly. A decrease in energy use should help households avoid increases in costs. Thus, monetary resources are extended. Taxpayers should benefit from the cooperation of the public agencies involved in the project. The complimentary interfacing of efforts and pooling of resources should have multiplied the dollars allocated to each agency to fulfill given responsibilities. Additionally, the need for government subsidies should be reduced. If people can learn to help themselves and others, they may be less likely to become dependent upon government subsidies. Their self worth should be enhanced also.

The Energy Extension Service, who granted the money through the Oklahoma Department of Energy to Cooperative Extension, benefited from the project. The project contributed data to help the EES meet the following of their objectives:

1) A reduction in energy consumption by individual consumers.
2) An increased knowledge of implementable and cost-effective energy conservation measures.
3) An increased knowledge as to where additional assistance is available especially for low-income individuals.

The extensive support of Little Dixie Community Action Center (LDCAC) necessitates a more detailed description. From the planning stage, project personnel from LDCAC were most helpful. The director stated that both his program (LDCAC) and ours could benefit by cooperation. He further supported this statement by sending members of his staff to our aides orientation training session. In turn, he provided training for our aides. He also provided the Choctaw Project staff with lists of people who could benefit from our program. Little Dixie Community Action Center was the only CAP Agency in the state to offer the Department of Energy Low Cost/No Cost Weatherization Program. This program provided low cost/no cost weatherization materials to eligible low income individuals and families. Installation of these materials was designed as an interim effort pending more complete weatherization of the dwelling at a later date. The cost of materials per dwelling was limited to $50.00.

Choctaw Project Aides assisted in identifying qualified households and referring them to LDCAC. A total of 118 clients used low cost/no cost materials supplied by Little Dixie. These materials were valued at $3,601.

Another community resource which needs an amplified explanation is the Choctaw Rural Electric Cooperative. This agency actively supported the Choctaw Project. This group acted as back-up and support for the computerized energy audit phase of the project. The program assistant who supervised aides consulted regularly with Choctaw REC staff members on audit related matters. A total of 102 computerized energy audits were completed for project clients.

In addition to these agencies, three businesses in the Hugo area which sold weatherization materials agreed to redeem coupons distributed by the aides. These coupons allowed clients to purchase materials at a reduced rate. The coupons were only distributed during October. A total of 24 coupons were redeemed.

Much of the above discussion has been couched in probabilities. Extensive data to support definitive statements are not available. Collection of such was beyond the scope of this project. However, data that was collected substantiates the following statements of impact:

Methodology

In this project, the printed media (flyers) was not found to be an effective method of dissemination of information. The group and home visit approaches were more successful. Use of aides proved to be effective. Aides were credited with influencing decisions to adopt and with provision of actual weatherization in addition to their function as educators. In a five month period, they were trained, motivated, and supervised to the extent that they nearly doubled the goal of 400 families to be reached by contacting and collecting pretreatment data on 788 families. In three weeks, these aides learned to conduct follow-up surveys and were able to interview 656 participants. Their efforts supplied the post-treatment data. The aide method worked as far as quantity is concerned.

Change

The data collected by the aides and reported earlier indicates that most of the people served by the aides did something different as a result of the project. They increased knowledge, structural and behavioral scores. Thus, not only were large numbers reached, but large numbers were motivated to apply the information and skills taught by the aides. This model of delivery is a successful model worthy of further consideration.

PART VII: CONCLUSIONS

Based on the data presented thus far, the following conclusions can be made:

1) The project did reach a limited income audience. They were taught to decrease energy loss, to control utility bills and to increase comfort. Thus, objective number one was met.
2) Objective two was achieved through the analysis of family characteristics.
3) Households adopted primarily for reasons of comfort and cost. Those who did not were renters or had their homes weatherized. Thus, objective number three was met.
4) The evidence thus supports the conclusion that use of paraprofessionals to reach and teach limited income families is a successful model. Families were informed and motivated to change behavior as a result of the aides outreach. Recommendations were created as a fulfillment of objective number four.
5) The interagency cooperation in Choctaw County is evident from this report. Dialogue thus far indicates presence of awareness that an on-going energy education program is desirable. This existence was the condition of objective number five.
6) Based on the statistical analysis presented, the project team feels confident in concluding that the treatments (flyers,

group meetings and/or home visits) affected change in knowledge, structural and behavioral modifications.

PART VIII: RECOMMENDATIONS

As a result of this project, the following recommendations were identified:

1) The results of this project should be considered when planning energy education programs to reach limited income clientele.
2) Agencies presently serving the clientele should be identified and contacted for interagency cooperation.
3) Paraprofessionals should be considered for effective delivery of energy education programs.
4) Because many of the limited income are aged, a similar project should be conducted focusing on older Oklahomans.
5) Households should be recontacted in future years to ascertain the long-term impact of the project.
6) Measures of actual and estimated energy savings should be obtained and analyzed to quantify the impact of the project.
7) The data should be further analyzed to reveal data relevant to the project.
8) The methodology and impacts of this project should provide needed data for program designers responsible for program decision making. Educators and legislators need to take note of the results when they choose from among a variety of proposed plans for achieving similar goals.

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APPENDIX A

THE ENERGY EVENT

In Coordination with the Department of Energy and the Home Economics Cooperative Extension

Here are some ways to stay warmer and cut your energy use this winter.

WEATHERIZE . . . stopping all the air leaks in your home is one of the easiest and most inexpensive ways to reduce energy use and live in more comfort. Air leaks are the largest source of energy loss in most homes. Weatherizing involves . . .

1) Weatherstripping
2) Caulking
3) Installing storm windows and doors

CHANGE LIVING HABITS . . .

- Lower the setting on your heater or furnace
- Wear layers of clothes to keep warm
- Check your utility bills and pay them on time . . . you pay more if they are late
- On sunny days open blinds and draperies, keep closed when sun is not shining
- Put rolled newspaper, heavy towels, or rugs at the base of doors and windows to stop drafts
- Lower the temperature on your hot water heater to 120° F
- Use less hot water
- Turn off faucets quickly
- Insulate water pipes
- Fix dripping faucets
- Add moisture to air by placing a pan of water on or near the stove or heater
- Turn off lights not in use

IF YOU WOULD LIKE TO BE WARMER THIS WINTER AND CUT UTILITY COSTS CONTACT CHOCTAW EXTENSION CENTER FOR MORE INFORMATION

DON'T WAIT . . . CALL NOW

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APPENDIX B

THE ENERGY EVENT

ENERGY EDUCATION PROGRAM

GROUP MEETING

SURVEY FORM

___ ___ ___
Attendance Sheet number

ID number _____

Location _____

Date _____

Aide Name _____

DIRECTIONS: Please answer each question or statement by putting an "X" in the space that mathces your answer.

INFORMATION ABOUT YOUR HOUSE

1. In which type of house do you live?
   - _____1. Single family
   - _____2. Duplex
   - _____3. Apartment
   - _____4. Mobile home

2. Do you rent or own your home?
   - _____1. Rent
   - _____2. Own
   - _____3. Live rent free

3. Do you pay any part of you utility bill (electric, water, gas)?
   - _____1. All
   - _____2. Part
   - _____3. None

INFORMATION ABOUT OCCUPANTS

4. What is the sex of the household head?
   - ___1. Male head, female present
   - _____2. Female head, male present
   - _____3. Male and female co-heads
   - _____4. Male head, no female present
   - _____5. Female head, no male present

FORM B-2

5. What is the age of the household head?

_____1. 18 to 29 years
_____2. 30 to 39 years
_____3. 40 to 49 years
_____4. 50 to 61 years
_____5. 62 to 75 years
_____6. Over 75 years

6. What is the educational level of the household head?

_____1. 8 years or less
_____2. Some high school
_____3. High school graduate
_____4. High school plus some college
_____5. College graduate

7. How many people are living in this house?

_____1. One person
_____2. 2 persons
_____3. 3 persons
_____4. 4 persons
_____5. 5 or more persons

8. What is your total yearly household income?

_____1. Less than $6,000
_____2. $6,000 to $12,000
_____3. $12,001 to $18,000
_____4. $18,001 to $24,000
_____5. Over $24,001

9. How many children are in your family? (write the number for each)

_____1. Pre-schoolers (0-5 years)
_____2. Children (6-9 years)
_____3. Pre-adolescents (10-12 years)
_____4. Adolescents (13-18 years)
_____5. Young Adults (19-20 years)

INFORMATION ABOUT YOUR ENERGY OPINIONS

DIRECTIONS: Please circle your response. "?" is for Do Not Know.

10. Yes ? No Air leaks are the largest single source of energy loss in your home.

11. Yes ? No Lowering the temperature of your furnace or heater is the most inexpensive way of cutting energy costs.

12. Yes ? No You use more heat to be comfortable in moist air.

13. Yes ? No Wearing layers of clothing can help keep you warm.

14. Yes ? No Weatherizing involves three major procedures: weatherstripping, caulking and installing storm windows and doors.

15. Yes ? No Fuzzy, fluffy jackets are warmer than smooth, silky jackets because they hold body heat.

16. Yes ? No You can save 10 to 30 cents of every dollar spent for heating by fixing air leaks in your home.

17. Yes ? No Hot water heaters use very little energy.

18. Yes ? No Placing rolled newspaper, heavy towels, or rugs at the base of doors and windows are easy and inexpensive ways to stop drafts.

19. Yes ? No A fan can be used to move air from a warm room into a cold room and heat the cold room quickly.

INFORMATION ABOUT YOUR HOME

20. Yes ? No Are all windows sealed with caulk

21. Yes ? No Are all door frames sealed with caulk

22. Yes ? No Are all exterior walls sealed with caulk

23. Yes ? No Are all windows weatherstripped

24. Yes ? No Are all doors weatherstripped

25. Yes ? No Are storm windows on all of your windows

26. Yes ? No Are storm doors on all of your doors

INFORMATION ABOUT YOU

Do you in your home . . .

27. Yes ? No Add layers of clothes to keep warm

28. Yes ? No Have heavy draperies or curtains on your windows

29. Yes ? No Have shades on you windows

30. Yes ? No Block off any windows

31. Yes ? No Add moisture to the air

32. Yes ? No Keep your heater on lower settings (about 68°)

33. Yes ? No Have leaky water faucets

34. Yes ? No Stop air leaks with paper, rags or rugs

GENERAL INFORMATION

35. Have you had any previous Energy Conservation Education?

_____1. Yes
_____2. No

36. How did you learn about this meeting?

_____1. The "Energy Education Program Flyer"
_____2. Friend (please give name) _____
_____3. Energy Aide (please give name) _____
_____4. Other (please specify) _____

37. Did you know the "Energy Aide" before today?

_____1. Yes
_____2. No

38. How long have you known the "Energy Aide"?

_____1. Just met
_____2. Less than one year
_____3. 1 to 5 years
_____4. More than 5 years

Thank you very much for answering this survey. We appreciate the time and effort you have given this task.

APPENDIX C

ENERGY EDUCATION PROGRAM

TELEPHONE FOLLOW-UP

SURVEY FORM

ID number _____

Location _____

Date _____

Aide Name _____

_ _ _ _
Coding form
Respondent
Number

AIDES: Please clearly circle the answers given to you by the participants.

1. Yes ? No Air leaks are the largest single source of energy loss in the home.

2. Yes ? No Lowering the temperature of your furnace or heater is the most inexpensive way of cutting energy costs.

3. Yes ? No You use more heat to be comfortable in moist air.

4. Yes ? No Wearing layers of clothing can help keep you warm.

5. Yes ? No Weatherizing involves three major procedures: weatherstripping, caulking and installing storm windows and doors.

6. Yes ? No Fuzzy, fluffy jackets are warmer than smooth, silky jackets because they hold body heat.

7. Yes ? No You can save 10 to 30 cents of every dollar spent for heating by fixing air leaks in your home.

8. Yes ? No Hot water heaters use very little energy.

9. Yes ? No Placing rolled newspaper, heavy towels, or rugs at the base of doors and windows are easy and inexpensive ways to stop drafts.

10. Yes ? No A fan can be used to move air from a warm room into a cold room and heat the cold room quickly.

FORM D-1

SECTION II

AIDES: I would next like to ask you some questions about any conservation activities you might have done since participating in the Energy Education Project.

ACTIVITIES	Done (yes)	Landlord should do it	Someone else will do it	Won't save energy	Don't have money	Don't have time	Don't know how	Not able	FLYER	GROUP MEETING	HOME VISIT
11. Are all windows sealed with caulk											
12. Are all door frames sealed with caulk											
13. Are all exterior walls sealed with caulk											
14. Are all windows weatherstripped											
15. Are all doors weatherstripped											
16. Are storm windows on all of your windows											
17. Are storm doors on all of your doors											
HAVE YOU IN YOUR HOME											
18. Added layers of clothes to keep warm											
19. Added heavy draperies or curtains on your windows											
20. Added shades to your windows											
21. Blocked off any windows											
22. Added moisture to the air											
23. Lowered your heater settings (about 68°)											
24. Had leaky water faucets fixed promptly											
25. Stopped air leaks with paper, rags or rugs											

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SECTION III

AIDES: I would now like to ask you some general questions concerning energy conservation activities.

DO NOT READ RESPONSES TO THE PARTICIPANTS!

26. Why did you decide to weatherize your home this winter?

_____1. Because of the cold drafts
_____2. For more comfort
_____3. My utility bills were to high
_____4. To save money
_____5. My friends did and/or relatives did
_____6. To save energy for future generations
_____7. Because the supply of energy is so scarce
_____8. Have not adopted any energy conservation activities
_____9. Other (please specify) _____

_____

_____

27. Why did you decide not to weatherize your home this winter? (Do not ask this question if the participant answered item 26)

_____1. Lack of money
_____2. Weather (too hot or too cold)
_____3. Too close to the holiday season
_____4. Rent residence (Landlord should do it)
_____5. It won't save energy
_____6. Don't have the time
_____7. Not able to do the work
_____8. Don't know how
_____9. Home was already weatherized
____10. Other (please specify) _____

_____

_____

28. Do you plan to weatherize your home in the future?

_____1. Yes
_____2. No
_____3. Do not know yet

COMMENTS: _____

_____

_____

FORM D-1

29. What person or persons influenced you most to weatherize your home this winter?

_____1. The Energy Aide (Please write in name) _____
_____2. Friend (Please write in name) _____
_____3. Relative (Please write in name) _____
_____4. My family
_____5. Community leader (Please write in name) _____
_____6. No one influenced the decision
_____7. Other (Please specify) _____
_____

30. Did you receive an Energy Flyer in the mail?

_____1. Yes COMMENTS: _____
_____2. No _____
_____3. I do not know _____

31. Did you use Little Dixie's Services? (Community Action Program)

_____1. Yes COMMENTS: _____
_____2. No _____
_____3. Haven't yet _____

32. Did you have your house Audited?

_____1. Yes COMMENTS: _____
_____2. No _____
_____3. Haven't yet _____

33. Do you feel the Energy Audit was benificial to you?

_____1. Yes COMMENTS: _____
_____2. No _____
_____3. Did not have _____

34. How did you get the structural changes made?

_____1. Did them myself COMMENTS: _____
_____2. Friends helped me _____
_____3. Family helped _____
_____4. Paid workmen _____
_____5. Service group _____

35. As a result of the information you have gained from the group meeting and/or the home visits is there anything that you do differently now than you did before to conserve energy?

_____1. Yes COMMENTS: _____
_____2. No _____
_____3. I do not know _____

36. Is there anything else you would like to tell us about the Energy Education Program?

_____1. Yes COMMENTS: _____
_____2. No _____
_____3. I do not know _____

37. Did you teach a neighbor or a friend how to keep warmer this winter?

_____1. Yes COMMENTS: _____
_____2. No _____
_____3. I do not know _____

38. Did they do anything because of the information you gave them?

_____1. Yes
_____2. No
_____3. I do not know
_____4. WHAT _____
_____
_____

THANK YOU VERY MUCH FOR TALKING WITH ME.
I APPRECIATE YOU GIVING ME THIS TIME.
I HOPE YOU WILL BE MORE COMFORTABLE THIS WINTER.